SPRINT 1

Date	30 October 2022
Team ID	PNT2022TMID36140
Project Name	Hazardous Area Monitoring for industrial plant Powered by IoT

Task:

Create python code

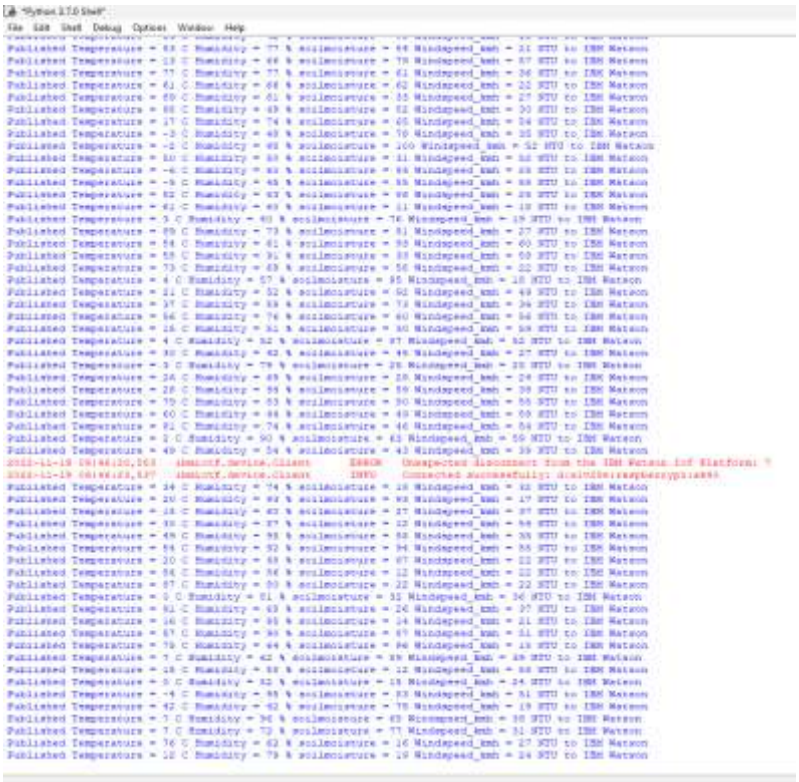
CODE:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "w1v28e"
deviceType = "raspberrypi"
deviceId = "sk40"
authMethod = "token"
authToken = "110319106040"

def myCommandCallback (cmd):
    print ("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status== "motoron":
        print ("motor is on")
    elif status == "motorff":
        print ("motor is off")
    else:
        print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId,
```

```
                "auth-method":authMethod, "auth-token":authToken}
    deviceCli= ibmiotf.device.Client (deviceOptions)


#..
except Exception as e:
    print ("Caught evention connecting device: %s" % str(e))
    sys.exit()



deviceCli.connect()
while True:
    temp=random.randint (-10,100)
    Humid=random.randint (40,100)
    soilmoisture=random.randint (10,100)
    Windspeed_kmh=random.randint (15,60)
    data = {'temp': temp,'Humid': Humid,'soilmoisture': soilmoisture,'Windspeed_kmh':
Windspeed_kmh}
    def myonPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid,"soilmoisture =
%s" % soilmoisture,"Windspeed_kmh = %s NTU" % Windspeed_kmh, "to IBM Watson")
    success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myonPublishCallback)
    if not success:
        print("Not connected to IOTF")
    time.sleep (10)
    deviceCli.commandCallback = myCommandCallback
deviceCli.disconnect()
```

OUTPUT:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "vlv1fa"
deviceType = "raspberrypi"
deviceId = "ard0"
authMethod = "token"
authToken = "1151181660"

def myCommandCallback (cmd):
    print ("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status== "motoron":
        print ("motor is on")
    elif status == "motoroff":
        print ("motor is off")
    else:
        print ("please send proper command")

try:
    deviceOptions = {"org": organization, "type": deviceType, "id": deviceId,
                     "auth-method":authMethod, "auth-token":authToken}
    deviceCli= ibmiotf.device.Client (deviceOptions)

#..
except Exception as e:
    print ("Caught exention connecting device: %s" % str(e))
    sys.exit()


deviceCli.connect()
while True:
    temp=random.randint (-10,100)
    Humid=random.randint (40,100)
    soilmoisture=random.randint (10,100)
    Windspeed_kmh=random.randint (15,60)
    data = {'temp': temp,'Humid': Humid,'soilmoisture': soilmoisture,'Windspeed_kmh': Windspeed_kmh}
    def myonPublishCallback():
        print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid,"soilmoisture = %s" % soilmoisture,
    success = deviceCli.publishEvent("IotSensor", "json", data, qos=0, on_publish=myonPublishCallback)
    if not success:
        print("Not connected to IOTF")
    time.sleep (10)
    deviceCli.commandCallback = myCommandCallback
deviceCli.disconnect()
```



```
*Python 3.7.0 Shell*
File  Edit  Shell  Debug  Options  Window  Help
Published Temperature = 68 C Humidity = 77 % soilmoisture = 44 Windspeed_kmh = 31 MTU to IBM Watson
Published Temperature = 19 C Humidity = 66 % soilmoisture = 79 Windspeed_kmh = 57 MTU to IBM Watson
Published Temperature = 77 C Humidity = 77 % soilmoisture = 61 Windspeed_kmh = 36 MTU to IBM Watson
Published Temperature = 61 C Humidity = 68 % soilmoisture = 62 Windspeed_kmh = 22 MTU to IBM Watson
Published Temperature = 69 C Humidity = 61 % soilmoisture = 55 Windspeed_kmh = 27 MTU to IBM Watson
Published Temperature = 88 C Humidity = 69 % soilmoisture = 52 Windspeed_kmh = 30 MTU to IBM Watson
Published Temperature = 17 C Humidity = 74 % soilmoisture = 65 Windspeed_kmh = 34 MTU to IBM Watson
Published Temperature = -3 C Humidity = 68 % soilmoisture = 76 Windspeed_kmh = 35 MTU to IBM Watson
Published Temperature = -2 C Humidity = 68 % soilmoisture = 100 Windspeed_kmh = 52 MTU to IBM Watson
Published Temperature = 10 C Humidity = 69 % soilmoisture = 11 Windspeed_kmh = 52 MTU to IBM Watson
Published Temperature = -6 C Humidity = 83 % soilmoisture = 84 Windspeed_kmh = 58 MTU to IBM Watson
Published Temperature = -9 C Humidity = 65 % soilmoisture = 85 Windspeed_kmh = 58 MTU to IBM Watson
Published Temperature = 82 C Humidity = 63 % soilmoisture = 88 Windspeed_kmh = 28 MTU to IBM Watson
Published Temperature = 61 C Humidity = 69 % soilmoisture = 11 Windspeed_kmh = 10 MTU to IBM Watson
Published Temperature = 3 C Humidity = 40 % soilmoisture = 76 Windspeed_kmh = 19 MTU to IBM Watson
Published Temperature = 85 C Humidity = 73 % soilmoisture = 81 Windspeed_kmh = 27 MTU to IBM Watson
Published Temperature = 54 C Humidity = 61 % soilmoisture = 85 Windspeed_kmh = 60 MTU to IBM Watson
Published Temperature = 58 C Humidity = 91 % soilmoisture = 58 Windspeed_kmh = 59 MTU to IBM Watson
Published Temperature = 73 C Humidity = 69 % soilmoisture = 56 Windspeed_kmh = 22 MTU to IBM Watson
Published Temperature = 4 C Humidity = 57 % soilmoisture = 85 Windspeed_kmh = 18 MTU to IBM Watson
Published Temperature = 21 C Humidity = 52 % soilmoisture = 92 Windspeed_kmh = 49 MTU to IBM Watson
Published Temperature = 37 C Humidity = 69 % soilmoisture = 73 Windspeed_kmh = 34 MTU to IBM Watson
Published Temperature = 56 C Humidity = 76 % soilmoisture = 60 Windspeed_kmh = 54 MTU to IBM Watson
Published Temperature = 26 C Humidity = 51 % soilmoisture = 90 Windspeed_kmh = 59 MTU to IBM Watson
Published Temperature = 4 C Humidity = 92 % soilmoisture = 87 Windspeed_kmh = 52 MTU to IBM Watson
Published Temperature = 30 C Humidity = 62 % soilmoisture = 49 Windspeed_kmh = 27 MTU to IBM Watson
Published Temperature = 3 C Humidity = 79 % soilmoisture = 25 Windspeed_kmh = 20 MTU to IBM Watson
Published Temperature = 24 C Humidity = 69 % soilmoisture = 28 Windspeed_kmh = 24 MTU to IBM Watson
Published Temperature = 28 C Humidity = 84 % soilmoisture = 59 Windspeed_kmh = 38 MTU to IBM Watson
Published Temperature = 79 C Humidity = 63 % soilmoisture = 90 Windspeed_kmh = 55 MTU to IBM Watson
Published Temperature = 60 C Humidity = 84 % soilmoisture = 49 Windspeed_kmh = 69 MTU to IBM Watson
Published Temperature = 81 C Humidity = 74 % soilmoisture = 46 Windspeed_kmh = 54 MTU to IBM Watson
Published Temperature = 2 C Humidity = 90 % soilmoisture = 63 Windspeed_kmh = 59 MTU to IBM Watson
Published Temperature = 49 C Humidity = 54 % soilmoisture = 43 Windspeed_kmh = 39 MTU to IBM Watson
2021-11-19 06:46:30,563   ibmiotf.device.Client      ERROR   Unexpected disconnect from the IBM Watson IoT Platform: 7
2021-11-19 06:46:33,637   ibmiotf.device.Client      INFO    Connected successfully: d:vlv1fa:raspberrypi:ard0
Published Temperature = 34 C Humidity = 74 % soilmoisture = 16 Windspeed_kmh = 41 MTU to IBM Watson
Published Temperature = 20 C Humidity = 84 % soilmoisture = 93 Windspeed_kmh = 17 MTU to IBM Watson
Published Temperature = 18 C Humidity = 83 % soilmoisture = 37 Windspeed_kmh = 37 MTU to IBM Watson
Published Temperature = 30 C Humidity = 87 % soilmoisture = 13 Windspeed_kmh = 56 MTU to IBM Watson
Published Temperature = 49 C Humidity = 93 % soilmoisture = 58 Windspeed_kmh = 35 MTU to IBM Watson
Published Temperature = 54 C Humidity = 92 % soilmoisture = 94 Windspeed_kmh = 55 MTU to IBM Watson
Published Temperature = 20 C Humidity = 69 % soilmoisture = 87 Windspeed_kmh = 11 MTU to IBM Watson
Published Temperature = 56 C Humidity = 86 % soilmoisture = 12 Windspeed_kmh = 11 MTU to IBM Watson
Published Temperature = 87 C Humidity = 80 % soilmoisture = 22 Windspeed_kmh = 22 MTU to IBM Watson
Published Temperature = 0 C Humidity = 81 % soilmoisture = 33 Windspeed_kmh = 36 MTU to IBM Watson
Published Temperature = 82 C Humidity = 63 % soilmoisture = 26 Windspeed_kmh = 37 MTU to IBM Watson
Published Temperature = 16 C Humidity = 85 % soilmoisture = 24 Windspeed_kmh = 21 MTU to IBM Watson
Published Temperature = 67 C Humidity = 90 % soilmoisture = 87 Windspeed_kmh = 51 MTU to IBM Watson
Published Temperature = 79 C Humidity = 64 % soilmoisture = 86 Windspeed_kmh = 19 MTU to IBM Watson
Published Temperature = 7 C Humidity = 42 % soilmoisture = 89 Windspeed_kmh = 49 MTU to IBM Watson
Published Temperature = 18 C Humidity = 88 % soilmoisture = 12 Windspeed_kmh = 58 MTU to IBM Watson
Published Temperature = 9 C Humidity = 82 % soilmoisture = 18 Windspeed_kmh = 24 MTU to IBM Watson
Published Temperature = -4 C Humidity = 85 % soilmoisture = 83 Windspeed_kmh = 51 MTU to IBM Watson
Published Temperature = 42 C Humidity = 62 % soilmoisture = 75 Windspeed_kmh = 19 MTU to IBM Watson
Published Temperature = 7 C Humidity = 96 % soilmoisture = 63 Windspeed_kmh = 30 MTU to IBM Watson
Published Temperature = 7 C Humidity = 72 % soilmoisture = 77 Windspeed_kmh = 31 MTU to IBM Watson
Published Temperature = 76 C Humidity = 62 % soilmoisture = 16 Windspeed_kmh = 27 MTU to IBM Watson
Published Temperature = 12 C Humidity = 79 % soilmoisture = 19 Windspeed_kmh = 24 MTU to IBM Watson
```